BIAMP™

MCA Series
Multi-Channel Amplifiers

Operation Manual

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an affiliate of Rauland Borg Corp.

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INTRODUCTION

MCA Series Multi-Channel Amplifiers provide eight channels of power amplification. Model **MCA 8050** delivers 50 watts/channel into 4 ohms. Model **MCA 8150** delivers 150 watts/channel into 4 ohms. Channels may be bridged in pairs for higher combined wattage. Connections are provided for remote control of channel levels & muting. MCA Series amplifiers are covered by Biamp Systems' five-year warranty.

MCA Series features include:

- 8 channels of 50W (MCA 8050) or 150W (MCA 8150)
- channels may be bridged in pairs for combined power
- terminals for remote control of channel levels/muting
- balanced line-level inputs on plug-in barrier strips
- rear panel level controls & high-pass filter switches
- amplifier outputs on screw-terminal connectors
- dual-color signal/peak indicators on front & rear panels
- front panel indicators for amplifier temp/load faults
- fan cooled with complete output/speaker protection
- optional transformers for 25/70/100 Volt systems
- incorporates AES recommended grounding practices
- **CE** marked & **UL** / **C-UL** listed
- covered by BiampSystems' five-year warranty

IMPORTANT SAFETY INFORMATION

Read these instructions.

Keep these instructions.

Heed all warnings.

Follow all instructions.

Do not use this apparatus near water.

Clean only with a dry cloth.

Do not block any of the ventilation openings.

Install in accordance with the manufacturers instructions.

WARNING - To reduce the risk of electric shock, do not expose this apparatus to rain or moisture.

The apparatus shall not be exposed to dripping or splashing and no objects, such as vases, shall be placed on the apparatus.

Unplug this apparatus during lightning storms or when unused for long periods of time.

Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

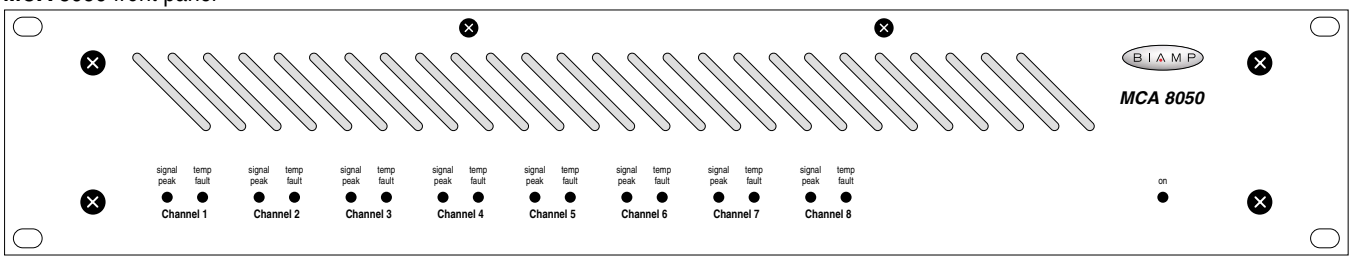
Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. When the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.

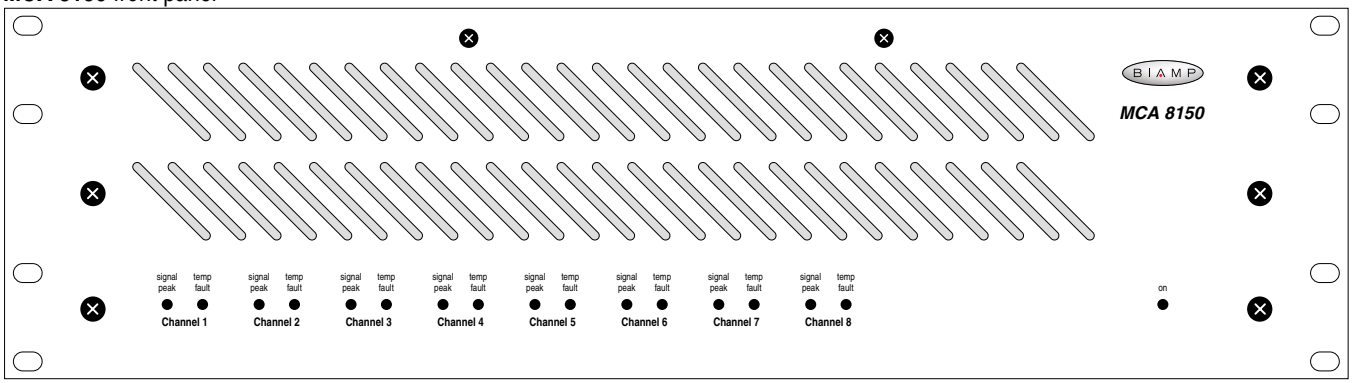
Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

FRONT PANEL

MCA 8050 front panel



MCA 8150 front panel



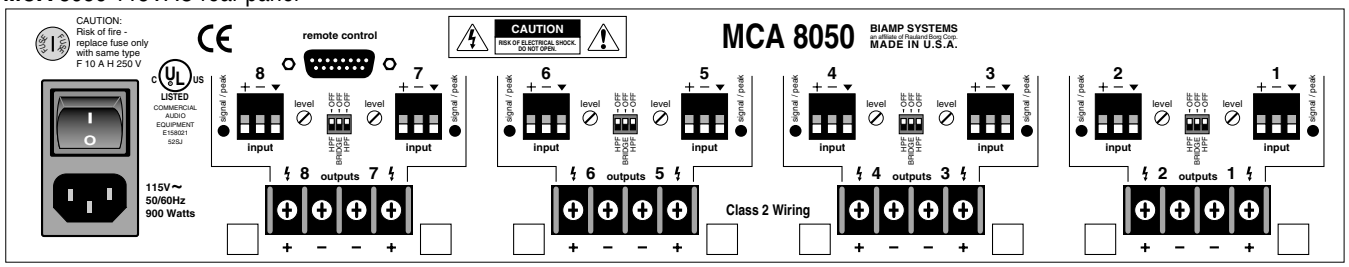
Signal / Peak Indicators: These 2-color LEDs indicate the signal level for each channel. When an LED is green, that channel has signal (above -30dB). When an LED is red, that channel signal is clipping (max. power). ***CAUTION:*** *Signal levels should be adjusted to avoid clipping. Clipping can cause severe distortion, over-temperature conditions, and even loudspeaker damage.* ***NOTE:*** *Signal / Peak indicators will turn off during Temp / Fault conditions (see Temp / Fault Indicators below).*

Temp / Fault Indicators: These red LEDs indicate over-temperature and output fault conditions for each channel. When an LED remains lit, that channel has an over-temperature condition. When an LED is flashing, that channel has an output fault condition. Either condition will temporarily de-activate the channel, causing the Signal / Peak LED to turn off as well. The channel will attempt to self-reset once the over-temperature or output fault condition is resolved.

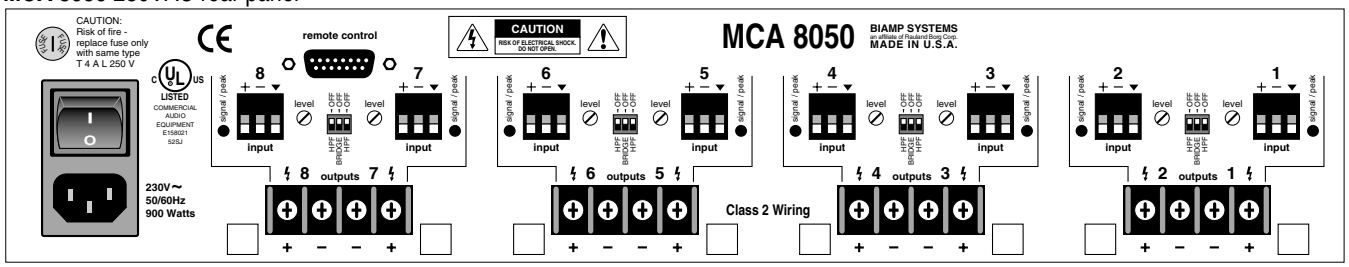
On Indicator: This green LED remains lit when AC power is applied to the unit.

REAR PANEL

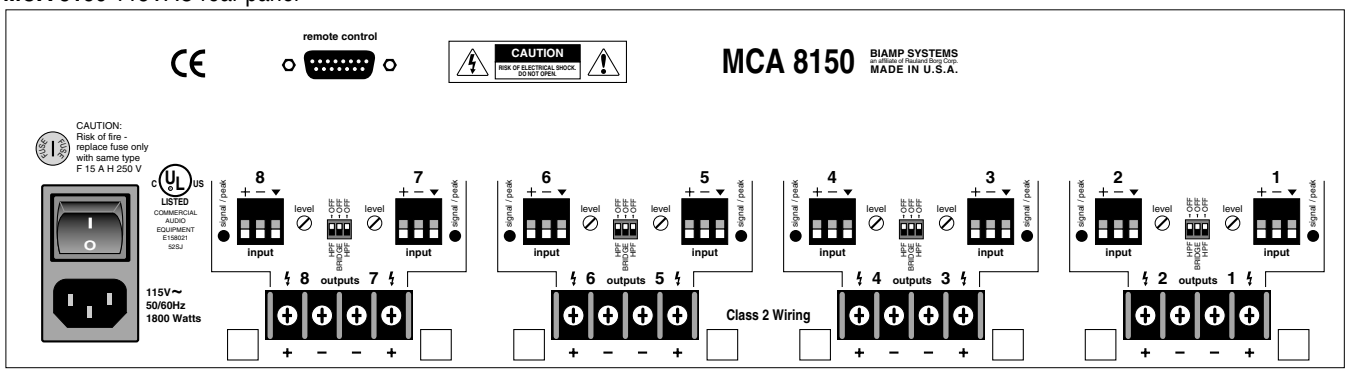
MCA 8050 115VAC rear panel



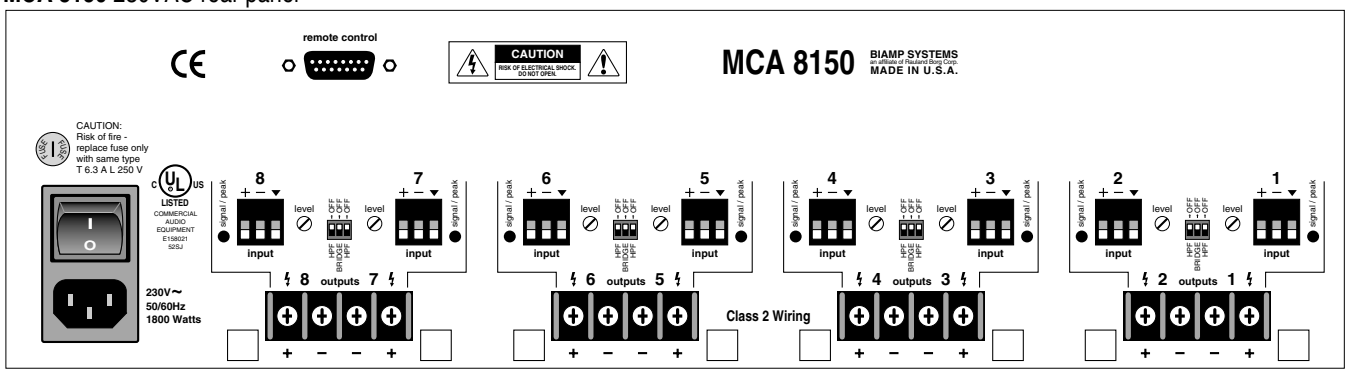
MCA 8050 230VAC rear panel



MCA 8150 115VAC rear panel



MCA 8150 230VAC rear panel



REAR PANEL

Input: These plug-in barrier strips provide the balanced line-level inputs to the channels. For balanced connection, wire high (+), low (-), and ground (▾). For unbalanced connection, wire high (+) and ground to both (▾) & (-). ***NOTE:*** *When using a pair of channels in 'bridged' mode (see Bridge below), input signal must be connected to the odd numbered channel.*

Level: These screw-driver adjustable controls determine the level of input signals allowed into the channels. Level provides a gain range from 'off' (min.) to 'unity' (max.). The Level control is factory set for -24dB of gain, which will produce maximum output power with input signal peaks of +24dBu. For best performance, first adjust the source signals for optimum (maximum) levels, then adjust the MCA Series Level controls for the desired volume.

Signal / Peak Indicators: These 2-color LEDs indicate the signal level for each channel. When an LED is green, that channel has signal (above -30dB). When an LED is red, that channel signal is clipping (max. power). ***CAUTION:*** *Signal levels should be adjusted to avoid clipping. Clipping can cause severe distortion, over-temperature conditions, and even loudspeaker damage.* ***NOTE:*** *Signal / Peak indicators will turn off during Temp / Fault condition (see Temp / Fault Indicators on pg. 3).*

HPF: These DIP switches provide High-Pass Filters for the input channels. High-Pass Filters are used to eliminate unnecessary lower frequencies (12dB/octave @ 125Hz) for speech and distributed speaker applications. From the factory, the High-Pass Filters are bypassed (switches up). To assign a High-Pass Filter on an input channel, move the switch to the down position. ***CAUTION:*** *To avoid output fault conditions, High-Pass Filters must be assigned on channels driving 25/70/100 Volt speaker systems (see Output below). Also, any other system equalization affecting frequencies below 125 Hz should remain flat or be used as cut-only.*

Bridge: These DIP switches allow adjacent channels to Bridge together in pairs, for a higher, combined output power (see Bridging on pg. 6). Bridge disables the even numbered input, and applies the odd numbered input signal to both amplifier channels. From the factory, Bridge is bypassed (switches up). To assign Bridge to a pair of channels, move the switch to the down position.

Output: These screw terminals provide the speaker outputs from the channels. Connect the positive speaker line to the (+) terminal and the negative speaker line to the (-) terminal of the channel being used. The minimum speaker load on an individual channel is 4 ohms. ***NOTE:*** *When using a pair of channels in 'bridged' mode (see Bridge above), connect the positive speaker line to the (+) terminal of the odd numbered channel and the negative speaker line to the (+) terminal of the even numbered channel. The minimum speaker load for a bridged output is 8 ohms.* Output transformers for 25/70/100 Volt speaker systems are available as user-installed options (installation instructions are included with the output transformers). Transformers (by model) are as follows:
TDT50 = MCA 8050 individual channels (50 Watts)
TDT100 = MCA 8050 bridged channels (100 Watts)
TDT150 = MCA 8150 individual channels (150 Watts)
TDT300 = MCA 8150 bridged channels (300 Watts)

Remote Control: This 15-pin Sub-D (female) connector provides remote level & muting control of the input channels (see Remote Control on pg. 6). ***NOTE:*** *When using a pair of channels in 'bridged' mode (see Bridge above), apply Remote Control only to the odd numbered input channel.*

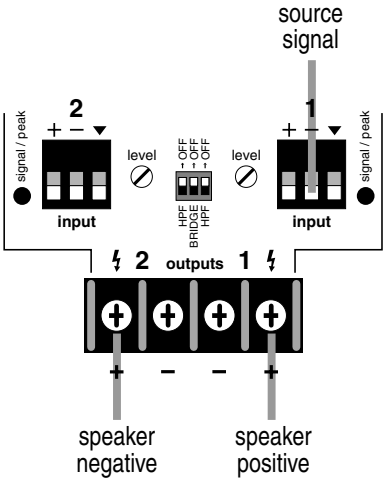
AC Power Entrance: The switch applies AC power to the unit. The receptacle accepts the detachable AC Power Cord. The AC Power Cord is for connection to three-prong grounded AC outlets. ***CAUTION:*** *Do not remove or defeat the ground prong on the AC Power Cord, as this constitutes a shock hazard.*

Fuse: MCA 8050 @ 115VAC Fuse = 10A NB. MCA 8050 @ 230VAC Fuse = 4A SB. MCA 8150 @ 115VAC Fuse = 15A NB. MCA 8150 @ 230VAC Fuse = 6.3A SB. Replace Fuse with same type and value only. ***NOTE:*** *If the Fuse continues to blow (even after checking for proper output connections and speaker loads) the amplifier may require service.*

BRIDGING / REMOTE CONTROL

BRIDGING

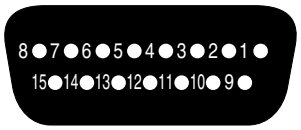
Bridge DIP switches allow the adjacent odd/even numbered channels to be bridged together in pairs, for a higher, combined output power (see Bridge on previous page). When a pair of channels are bridged, their wattage is combined, but the minimum load increases to 8 ohms (MCA 8050 = 100 watts @ 8 ohms; MCA 8150 = 300 watts @ 8 ohms). Bridge disables the even numbered input, and applies the odd numbered input signal to both amplifier channels. From the factory, Bridge is bypassed (switches up). To assign Bridge to a pair of channels, move the related switch to the down position. Connect the source signal to the odd numbered input channel, connect the positive speaker line to the (**+**) output terminal of the odd numbered channel, and connect the negative speaker line to the (**+**) output terminal of the even numbered channel (see diagram on right). ***NOTE:*** *Only adjacent odd/even numbered channels, which share a common Bridge switch, can be bridged. When channels are bridged, the minimum load is increased to 8 ohms. The negative (-) output terminals on bridged channels are not used (no connection). For remote control of a bridged pair of channels, only the odd numbered input channel requires control (see Remote Control below).*



REMOTE CONTROL

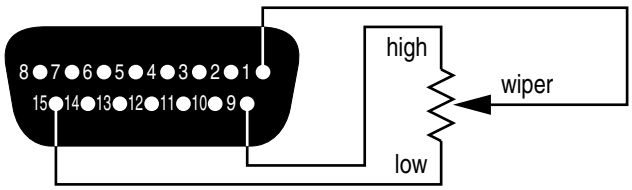
The 15-pin Sub-D (female) Remote Control connector provides terminals for remote level/mute control of Channels 1~8 (see diagram & table on right). A variable control voltage (0~+10 VDC) is used to control levels (+10 VDC = unity gain; 0 VDC = off). Remote Control provides +10V and ground terminals (for use with potentiometers), but external 'ramp' voltage devices, such as a BIAMP DRI, may be used instead (see Applications on pg. 8). Potentiometers should be 25kΩ linear taper, and are wired with high to +10V, low to ground, and wiper to the desired channel terminal(s). See examples below. The wiper of a single potentiometer may be wired to multiple control terminals (to control a group of channels). However, wipers from multiple potentiometers should not be connected to a single control terminal (undesirable interaction). Switches, Logic Outputs, or other contact-closures can be used to mute channels, by simply shorting the associated control terminal(s) to ground. A switch may be wired to multiple control terminals (to mute a group of channels). Multiple switches may be wired to a single control terminal, but wiring multiple switches to multiple control terminals would require a diode matrix. The combination of a potentiometer & a switch can be used to perform level adjustment & muting, or to provide an adjustable amount of mute attenuation. ***NOTE:*** *Remote controls simply decrease volume from a maximum, which is established with the channel Level controls (see Level on previous page). When using a pair of channels in 'bridged' mode (see Bridging above), apply Remote Control only to the odd numbered input channel.*

remote control

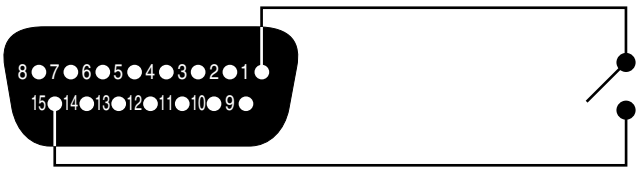


remote control	pin number
channel 1	pin #1
channel 2	pin #2
channel 3	pin #3
channel 4	pin #4
channel 5	pin #5
channel 6	pin #6
channel 7	pin #7
channel 8	pin #8
+10V	pin #9
ground	pins #10~15

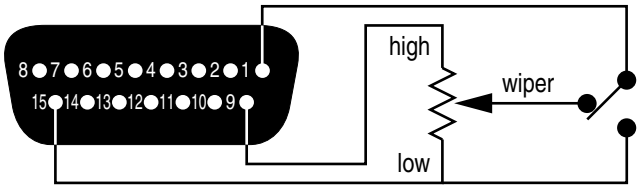
Channel 1 Level



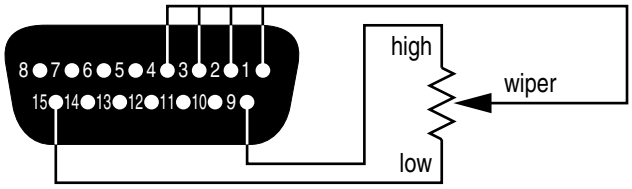
Channel 1 Mute



Channel 1 Level & Mute

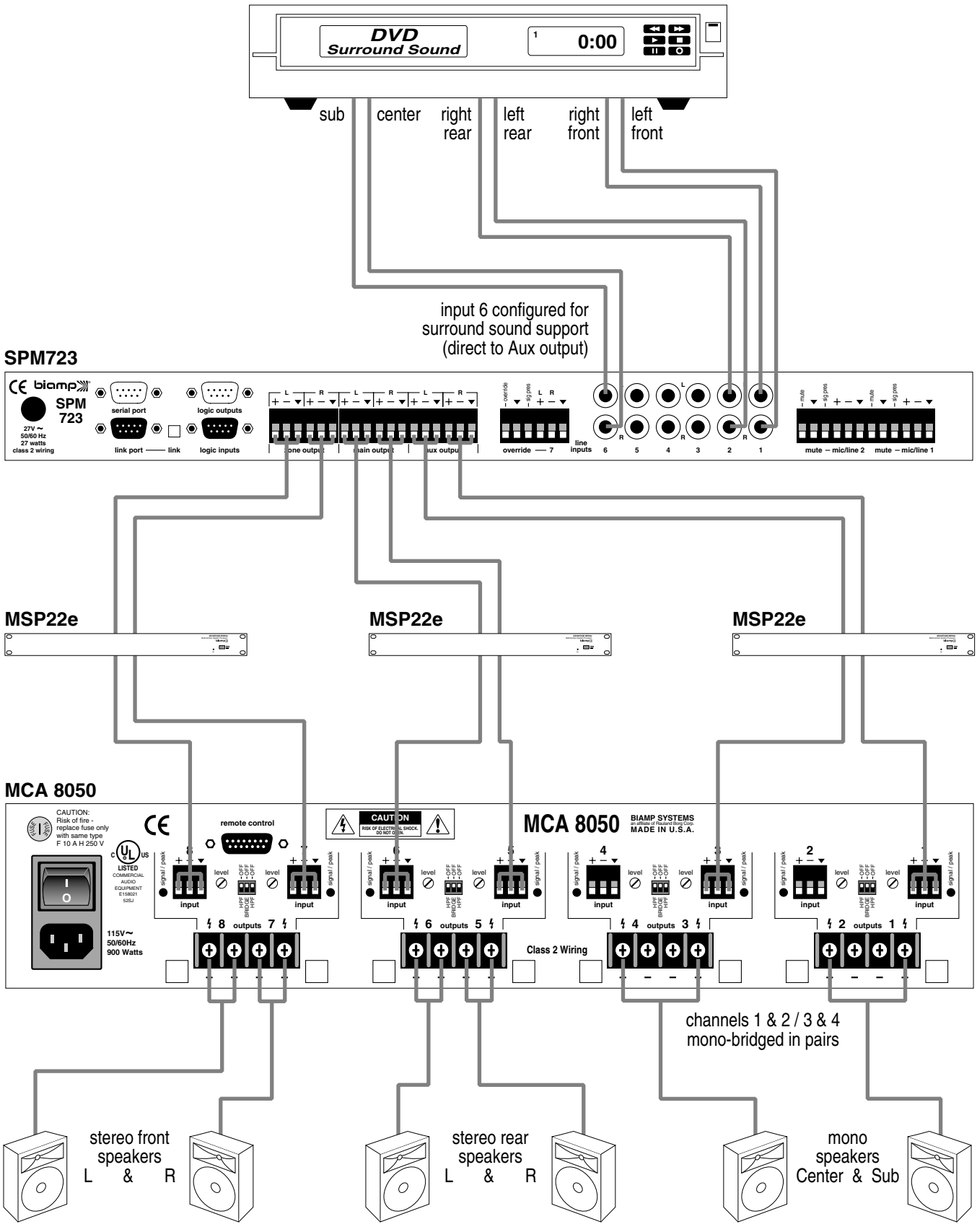


Channels 1~4 Group Level



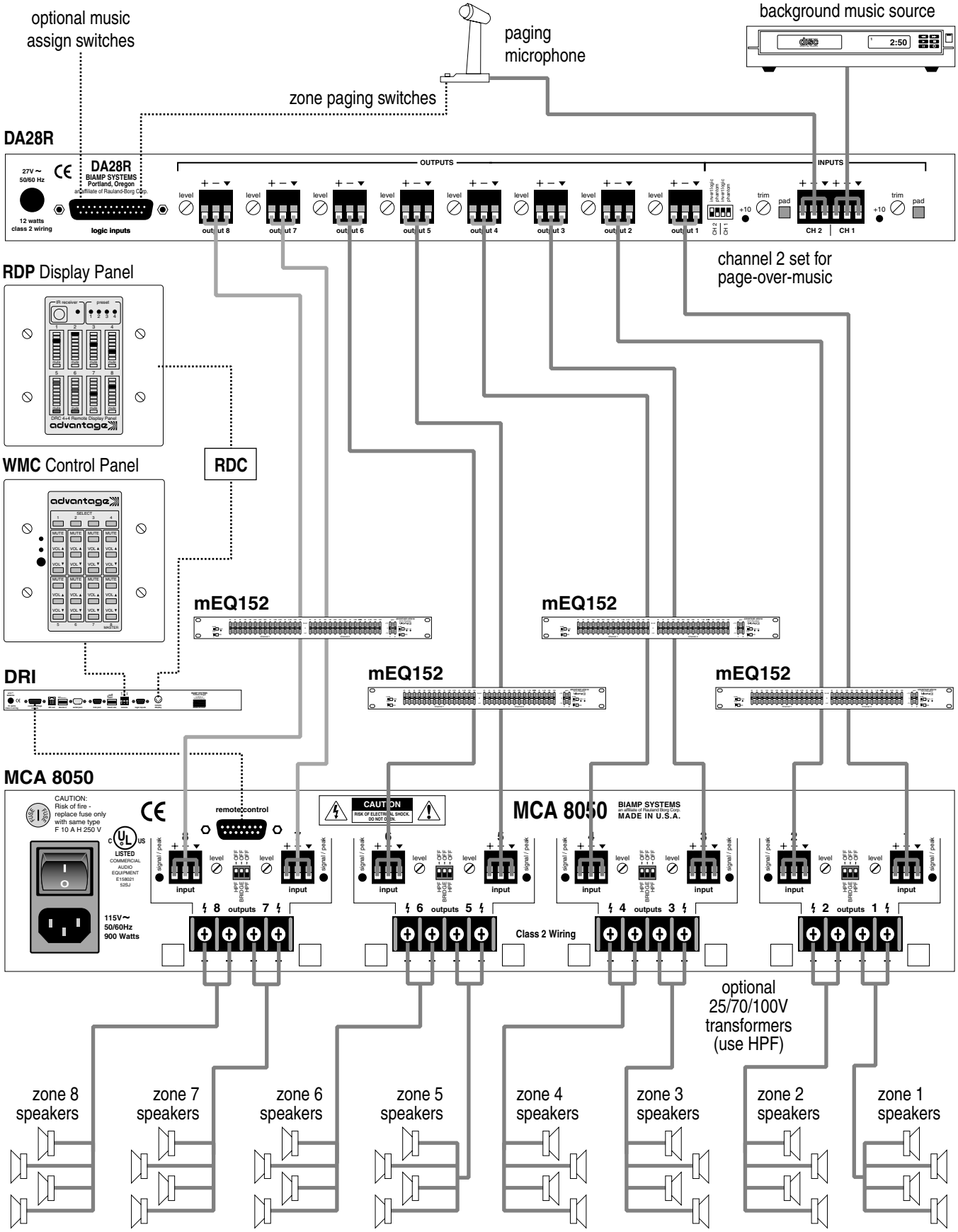
APPLICATIONS

SURROUND SOUND



APPLICATIONS

PAGE/MUSIC SYSTEM with REMOTE CONTROL



SPECIFICATIONS

SPECIFICATION	MCA 8050	MCA 8150
Maximum Power Output (@ 2kHz)**:**		
individual channel into 4 ohm load	50 watts/channel	150 watts/channel
individual channel into 8 ohm load	30 watts/channel	90 watts/channel
bridged channels into 8 ohm load	100 watts/channel	300 watts/channel
Signal-to-Noise Ratio (20Hz~20kHz)**:**		
at rated power into 4 ohms	> 85dB	> 85dB
Total Harmonic Distortion + Noise:		
20Hz~20kHz @ rated power	< 0.2%	< 0.2%
Intermodulation Distortion (SMPTE)**:**	< 0.35%	< 0.35%
Frequency Response (20Hz~20kHz)**:**	+0/-1dB	+0/-1dB
Input Impedance:		
balanced	20k ohms	20k ohms
unbalanced	10k ohms	10k ohms
Input Sensitivity:	0.775 Vrms (0dBu)	0.775 Vrms (0dBu)
Power Requirements:	115/230 VAC, 50/60Hz	115/230 VAC, 50/60Hz
Power Consumption:	900 watts max.	1800 watts max.
Dimensions:		
height	3.5 inches (89mm) - 2U	5.25 inches (133mm) - 3U
width	19 inches (483mm)	19 inches (483mm)
depth	15.5 inches (394mm)	15.5 inches (394mm)
Weight:	30 lbs. (13.6kg)	35 lbs. (15.9kg)

Biamp Systems reserves the right to make changes to performance specifications without prior notice.

WARRANTY

BIAMP SYSTEMS IS PLEASED TO EXTEND THE FOLLOWING 5-YEAR LIMITED WARRANTY TO THE ORIGINAL PURCHASER OF THE PROFESSIONAL SOUND EQUIPMENT DESCRIBED IN THIS MANUAL.

BIAMP Systems expressly warrants this product to be free from defects in material and workmanship for a period of 5 YEARS from the date of purchase as a new product from an authorized BIAMP Systems dealer under the following conditions.

1. In the event the warranted BIAMP Systems product requires service during the warranty period, BIAMP Systems will repair or replace, at its option, defective materials, provided you have identified yourself as the original purchaser of the product to any authorized BIAMP Systems Service Center. Transportation and insurance charges to and from an authorized Service Center or the BIAMP Systems factory for warranted products or components thereof to obtain repairs shall be the responsibility of the purchaser.

2. This warranty will be VOIDED if the serial number has been removed or defaced; or if the product has been subjected to accidental damage, abuse, rental usage, alterations, or attempted repair by any person not authorized by BIAMP Systems to make repairs; or if the product has been installed contrary to BIAMP Systems's recommendations.

3. Electro-mechanical fans, electrolytic capacitors, and the normal wear and tear of appearance items such as paint, knobs, handles, and covers are not covered under this warranty.

4. BIAMP SYSTEMS SHALL NOT IN ANY EVENT BE LIABLE FOR SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, INCLUDING LOST PROFITS, LOSS OF USE, PROPERTY DAMAGE, INJURY TO GOODWILL, OR OTHER ECONOMIC LOSS OF ANY SORT. EXCEPT AS EXPRESSLY PROVIDED HEREIN, BIAMP SYSTEMS DISCLAIMS ALL OTHER LIABILITY TO PURCHASER OR ANY OTHER PERSONS ARISING OUT OF USE OR PERFORMANCE OF THE PRODUCT, INCLUDING LIABILITY FOR NEGLIGENCE OR STRICT LIABILITY IN TORT.

5. THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES EXPRESSED OR IMPLIED. BIAMP SYSTEMS EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE REMEDIES SET FORTH HEREIN SHALL BE THE PURCHASER'S SOLE AND EXCLUSIVE REMEDIES WITH RESPECT TO ANY DEFECTIVE PRODUCT. THE AGENTS, EMPLOYEES, DISTRIBUTORS, AND DEALERS OF BIAMP SYSTEMS ARE NOT AUTHORIZED TO MODIFY THIS WARRANTY OR TO MAKE ADDITIONAL WARRANTIES BINDING ON BIAMP SYSTEMS. ACCORDINGLY, ADDITIONAL STATEMENTS SUCH AS DEALER ADVERTISEMENTS OR REPRESENTATIONS DO NOT CONSTITUTE WARRANTIES BY BIAMP SYSTEMS.

6. No action for breach of this warranty may be commenced more than one year after the expiration of this warranty.

Thank you for purchasing BIAMP SYSTEMS...
AMERICAN SOUND CRAFTSMANSHIP

Biamp Systems
10074 S.W. Arctic Drive
Beaverton, Oregon 97005
(503) 641-7287
http://www.biamp.com

Declaration of Conformity

Biamp Systems, Inc., as the manufacturer, hereby declares that the following described product, in our delivered version, complies with the provisions of the DIRECTIVES except as noted herein. In case of alteration of the product, not agreed upon or directed by us, this declaration is no longer valid.

Product Model: ADVANTAGE® MCA8050
Product Description: Audio Amplifier

Applicable EC Directives: EMC Directive (89/336/EEC), LVD Directive (73/23/EEC)

Applicable Harmonized Standards: EN55103-1 emissions EN55103-2 immunity EN60065 safety

Special Considerations for Product Environment or Compliance:

Shielded cabling must be used for system connections. The apparatus is deemed incapable of producing harmonic emissions or flicker levels sufficient enough to interfere with other apparatus as noted in EN61000-3-2 and EN61000-3-3.

RF interference conducted through interconnect cabling or connectors may cause varying degrees of random signal degradation. The effect of increased noise or distortion due to this interference is typically masked by the desired signal. In no instance is operation inhibited.

The Technical Report/File is maintained at: Biamp Systems, Inc.
10074 S.W. Arctic Drive
Beaverton, OR USA 97005
phone: (503) 641-7287 fax: (503) 626-0281
e-mail: biamp@biamp.com

Authorized Representative: Steven Hedgepeth

Authorized Representative Signature:
Issued: February, 2001

Declaration of Conformity

Biamp Systems, Inc., as the manufacturer, hereby declares that the following described product, in our delivered version, complies with the provisions of the DIRECTIVES except as noted herein. In case of alteration of the product, not agreed upon or directed by us, this declaration is no longer valid.

Product Model: ADVANTAGE® MCA8150
Product Description: Audio Amplifier

Applicable EC Directives: EMC Directive (89/336/EEC), LVD Directive (73/23/EEC)

Applicable Harmonized Standards: EN55103-1 emissions EN55103-2 immunity EN60065 safety

Special Considerations for Product Environment or Compliance:

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Beaverton, OR USA 97005
phone: (503) 641-7287 fax: (503) 626-0281
e-mail: biamp@biamp.com

Authorized Representative: Steven Hedgepeth

Authorized Representative Signature:
Issued: February, 2001

SAFETY INFORMATION

The words WARNING and CAUTION throughout the manual, and on the device, call attention to important safety information. These words have the following meanings.

WARNING: The related information alerts you to conditions that could result in serious injury or damage to property if the instructions are not followed properly.

CAUTION: The related information instructs you on how to prevent damage to the equipment or how to avoid conditions that could result in minor injury if proper steps are not followed.

Product labelling and the operation manual may use the internationally recognized symbols defined below to note safety messages.

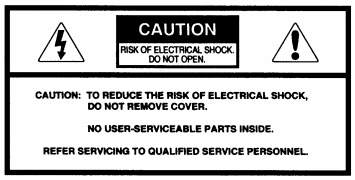
The lightning flash with arrowhead symbol, enclosed within a triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the apparatus's enclosure or at connection terminals that may be of sufficient magnitude to constitute a risk of electrical shock.

The exclamation point, enclosed within a triangle, is intended to alert the user to important installation, operation, and maintenance (servicing) instructions in the literature accompanying the apparatus.

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRICAL SHOCK, DO NOT EXPOSE THIS APPARATUS TO RAIN OR MOISTURE.

CAUTION: Installation of this apparatus should be made by a qualified installation person and should conform to all applicable local codes.

Modification and optional equipment information referenced in this manual is for use by qualified installation and service personnel only.


CAUTION
RISK OF ELECTRICAL SHOCK. DO NOT OPEN.
CAUTION: TO REDUCE THE RISK OF ELECTRICAL SHOCK, DO NOT REMOVE COVER.
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

"INFORMACIÓN DE SEGURIDAD"

Las palabras **PELIGRO** (WARNING) y **PRECAUCIÓN** (CAUTION) a lo largo del manual y en el dispositivo (sistema), llaman la atención acerca de una importante información de seguridad. Estas palabras tienen los siguientes significados :

PELIGRO (WARNING) : la información relata las condiciones en que podría ser dañada seriamente la propiedad si no se siguen adecuadamente las instrucciones.

PRECAUCIÓN (CAUTION) : la información que se relata te instruye en cómo prevenir daños al equipo o como evitar condiciones que podrían resultar en perjuicio menor si los pasos adecuados no son seguidos correctamente.

El etiquetado del producto y el manual de operación pueden hacer uso de los símbolos reconocidos internacionalmente y cuyos mensajes estan definidos a continuación para modificar mensajes de seguridad:

El símbolo del rayo encerrado en un triángulo pretende alertar al usuario de la presencia de un peligroso voltaje no aislado ,dentro de la caja del aparato o a un terminal de conexión y que podría ser de suficiente magnitud como para constituir un grave riesgo de descarga eléctrica.

El punto de exclamación dentro de un triángulo pretende alertar al usuario de la importancia de las instrucciones de instalación, operación y mantenimiento (servicio) que acompañan al aparato.

PELIGRO (WARNING) : para reducir el riesgo de fuego o una descarga electrica, no exponer este aparato a la lluvia o la humedad.

PRECAUCIÓN (CAUTION) : la instalación de este aparato debería hacerse por una persona cualificada en la instalación, y debería conformar todos los códigos locales aplicables.

La modificación y la información opcional del equipo referenciada en este manual es para ser utilizada únicamente por personal cualificado en instalación y servicio.

PRECAUCIÓN
RIESGO DE DESCARGA ELÉCTRICA NO ABRIR.
PRECAUCIÓN: para reducir el riesgo de descarga eléctrica no levantar la tapa.
NO EXISTEN COMPONENTES DE SERVICIO EN EL INTERIOR.
REFERIRSE ÚNICAMENTE A PERSONAL CUALIFICADO PARA SERVICIO TECNICO.

INFORMATION CONCERNANT VOTRE SECURITE

Les mots **WARNING** et **CAUTION** dans le manuel d'utilisation et sur les appareils attirent votre attention sur les plus importantes informations concernant votre sécurité. Ces mots ont la signification suivante:

WARNING: Ce mot vous indique les circonstances dans lesquelles vous pourriez être blessé ou endommager votre équipement si les instructions ne sont pas suivies correctement.

CAUTION: Ce mot vous indique comment éviter d'endommager votre matériel et comment éviter de vous blesser si vous ne suivez pas les instructions.

Vous trouverez peut-être les symboles suivants sur votre appareil ou dans le manuel d'utilisation.

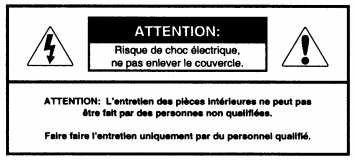
L'éclair se terminant en flèche dans un triangle permet de prévenir l'utilisateur d'un voltage dangereux non isolé dans l'appareil ou d'une connexion d'une amplitude suffisante pour constituer un risque de choc électrique.

Le point d'exclamation dans un triangle permet de prévenir l'utilisateur des points importants concernant l'installation, le fonctionnement et l'entretien de l'appareil figurant dans le manuel d'utulisation.

WARNING: POUR REDUIRE LES RISQUES DE FEU OU DE CHOC ELECTRIQUE, NE PAS METTRE L'APPAREIL SOUS LA PLUIE OU DANS L'HUMIDITE.

CAUTION: L'installation de cet appareil doit être faite par un installateur qualifié et doit être en conformité avec toutes les lois locales en application.

Les informations concernant une modification ou un équipement en option dans le manuel doivent être effectué par du personnel qualifié.


ATTENTION:
Risque de choc électrique, ne pas enlever le couvercle.
ATTENTION: L'entretien des pièces intérieures ne peut pas être fait par des personnes non qualifiées.
Faire faire l'entretien uniquement par du personnel qualifié.

INFORMAZIONI PER LA SICUREZZA

Le parole **AVVERTENZA** (WARNING) e **PRUDENZA** (CAUTION) poste sul manuale d'uso e sul apparato richiamano la vostra attenzione su delle importanti informazioni per la vostra sicurezza. Queste parole hanno il seguente significato.

AVVERTENZA: (WARNING) La suddetta indicazione vi avvisa sul rischio di incorrere in danni a cose o a persone ,se le procedure d'uso e installazione non saranno seguite propriamente.

PRUDENZA: (CAUTION) La suddetta indicazione vi instruisce su come prevenire e ridurre al minimo, il rischio di danni agli apparati e alle persone se le instruzioni saranno seguite propriamente.

Le apparecchiature e i manuali di instruzioni riporteranno la simbologia standard raffigurata qui sotto ,accompagnate dalle relative informazioni per la sicurezza.

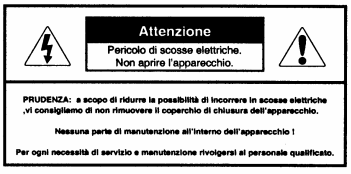
La simbologia con il fulmine all'interno di un triangolo, intende avvisare l'utente della presenza di alto volaggio all'interno del apparecchio in questione, e che il suddetto apparecchio si alimenta attraverso una tensione di rete ad alto voltaggio e che dunque si potrebbe incorrere sul rischio di una possibile scossa elettrica.

La simbologia con il punto esclamativo all'interno di un triangolo, intende avvisare l'utente di una serie di instruzioni contenute nel manuale d'uso riguardanti : operato,manutenzione e assistenza. Il suddetto manuale sarà a corredo dell'apparecchio.

AVVERTENZA: (WARNING) PER RIDURRE IL RISCHIO DI POSSIBILI INCENDI O SCOSSE ELECTTRICHE ,SCONSIGLIAMO DI ESPORRE L'APPARECCHIO ALLA PIOGGIA O ALL'UMIDITA'.

PRUDENZA: (CAUTION) l'Installazione di questo apparato dovrà essere effettuata solo da personale qualificato e il tipo di installazione dovrà essere in regola con le norme vigenti locali..

Modifiche e ulteriori informazioni specificate in questo manuale sono solamente riservate al personale qualificato all'installazione.


Attenzione
Pericolo di scosse elettriche. Non aprire l'apparecchio.
PRUDENZA: a scopo di ridurre la possibilità di incorrere in scosse elettriche ,vi consigliamo di non rimuovere il coperchio di chiusura dell'apparecchio.
Nessuna parte di manutenzione all'interno dell'apparecchio !
Per ogni necessità di servizio e manutenzione rivolgersi al personale qualificato.

Sicherheitshinweise

Die Bergriffe **WARNUNG** (engl. WARNING) und **ACHTUNG** (engl. CAUTION) in der Bedienungsanleitung und auf den Geräten machen auf wichtige Sicherheitsinformationen aufmerksam. Diese Begriffe haben die folgende Bedeutung:

WARNUNG: (WARNING) Der folgende Text warnt Sie vor ernsthaften Verletzungen oder Beschädigungen, die aus einer fehlerhaften Bedienung bzw. Handhabung des Gerätes resultieren können.

ACHTUNG: (CAUTION) Der folgende Text informiert Sie über Bedienungshinweise zum Schutz Ihres Gerätes oder weist auf mögliche Schäden hin, wenn die Bedienungshinweise nicht beachtet werden.

Die Beschriftung der Geräte und die Bedienungsanleitungen weisen unter Umständen international bekannte Symbole auf, die die folgende Bedeutung haben:

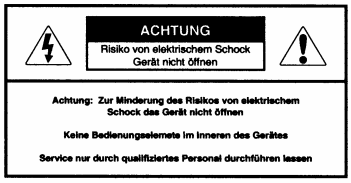
Das Blitzsymbol im Dreieck warnt vor anliegender, nicht isolierter „gefährlicher Spannung" im Inneren oder an den Anschlüssen des Gerätes. Die Berührung der unter Spannung stehenden Teile kann zu einem elektrischen Schock führen.

Das Rufzeichen im Dreieck macht auf wichtige Installations-, Bedienungs- und Servicehinweise in der zugehörigen Bedienungsanleitung aufmerksam.

WARNUNG: (WARNING) Zur Minderung des Risikos von Feuer und elektrischem Schock schützen Sie das Gerät vor Regen und Feuchtigkeit.

ACHTUNG: (CAUTION) Die Installation des Gerätes sollte nur durch qualifiziertes Personal durchgeführt werden und muß den jeweiligen Bestimmungen entsprechen.

Die Modifikationen und die Informationen zu den optionalen Erweiterungen in der Bedienungsanleitung sind nur für qualifiziertes Personal bestimmt.


ACHTUNG
Risiko von elektrischem Schock
Gerät nicht öffnen
Achtung: Zur Minderung des Risikos von elektrischem Schock das Gerät nicht öffnen
Keine Bedienungselemete im Inneren des Gerätes
Service nur durch qualifiziertes Personal durchführen lassen

Sikkerhedsinformation

Ordene ***ADVARSEL*** (WARNING) og ***FORSIGTIG*** (CAUTION), brugt i henholdsvis brugervejledning og på selve produktet, indikerer, at vigtig information omkring sikkerhed følger. Ordene betyder følgende:

ADVARSEL: (WARNING) Den efterfølgende information advarer Dem om forhold, der kan føre til alvorlige ulykker og ejendomsskader, hvis ikke vejledningen følges.

FORSIGTIG: (CAUTION) Den efterfølgende information vejleder Dem i, hvordan De undgår skade på produktet, samt undgår forhold der kan føre til mindre ulykker og ejendomsskader, hvis ikke vejledningen følges.

Produktetiketter og brugervejledning kan indeholde de internationalt anerkendte symboler der er vist nedenfor:

Trekanten med et lyn i midten har til hensigt at advare brugeren om, at produktet indeholder "farlig spænding", og at det derfor er forbundet med fare for elektrisk stød at åbne produktet.

Trekanten med udråbstegn har til hensigt at advare brugeren om, at vigtig information omkring installation, brug, service og vedligeholdelse af produktet er indeholdt i den medfølgende brugervejledning.

ADVARSEL: (WARNING) Med henblik på at reducere risikoen for brand eller elektrisk stød, må produktet ikke udsættes for regn eller fugt.

FORSIGTIG: (CAUTION) Installation af dette produkt skal foretages af en autoriseret installatør og skal være i overensstemmelse med alle anvendelige lokale retningsliner.

Modifikationer samt alternativt udstyr beskrevet i denne brugervejledning er kun henvendt til kvalificerede installatører og servicepersonale.

FORSIGTIG
Fare for elektrisk stød
- må ikke åbnes.
FORSIGTIG: Med henblik på at reducere risikoen for elektrisk stød, må svøbet ikke fjernes.
Indeholder ingen komponenter relevante for brugeren.
Anvend autoriseret servicepersonale ved alle servicetiltag.

VEILIGHEIDSINFORMATIE

De woorden **WAARSCHUWING** (WARNING) en **VOORZICHTIG** (CAUTION) welke in de handleiding en op het apparaat voorkomen, waarschuwen U voor belangrijke veiligheidsinformatie. Zij hebben de volgende betekenis:

WAARSCHUWING: (WARNING) De betreffende informatie waarschuwt U voor omstandigheden die kunnen leiden tot defecten of beschadigingen aan apparaten als de instructies niet volledig worden opgevolgd.

VOORZICHTIG: (CAUTION) De betreffende informatie instrueert U hoe U defecten aan apparatuur kunt voorkomen of hoe U omstandigheden kunt vermijden die kunnen resulteren in schade als de juiste stappen niet worden opgevolgd.

Produkt informatie en handleiding hanteren onderstaande internationaal erkende symbolen om veiligheidsinstructies aan te geven.

De bliksemschicht in een driehoek wordt gebruikt om de gebruiker te attenderen op ongeïsoleerde "gevaarlijke spanning" in het apparaat of bij de aansluitklemmen, die het risico van een electrische schok kunnen geven.

Het uitroepteken in een driehoek wordt gebruikt om de gebruiker te attenderen op belangrijke installatie, gebruiks- en onderhoudsinstructies in de beschrijving die bij het apparaat hoort.

WAARSCHUWING: (WARNING) OM HET RISICO VAN BRAND OF EEN ELECTRISCHE SCHOK TE VERMIJDEN DIENT U HET APPARAAT NIET AAN VOCHT BLOOT TE STELLEN.

VOORZICHTIG: (CAUTION) Installatie van dit apparaat dient te geschieden door gekwalificeerd personeel en dient te geschieden conform de plaatselijke voorschriften.

Modificaties en aanvullende informatie waar in de handleiding naar wordt verwezen, dient alleen voor gebruik door gekwalificeerd personeel.

VOORZICHTIG.
Risico van electrische schok.
Niet openen.
Waarschuwing: Om het risico van een electrische schok te verminderen het apparaat niet openen.
Er zijn geen, door gebruiker, vervangbare onderdelen in dit apparaat.
Service overlaten aan gekwalificeerd service personeel.

TURVALLISUUSTIEDOTE

Sanat **VAROITUS** (WARNING) ja **HUOMIO** (CAUTION), jotka esiintyvät manuaalissa ja itse laitteessa, ilmoittavat tärkeästä turvallisuusinformaatiosta. Näillä sanoilla on seuraava merkitys:

VAROITUS: (WARNING) Yhteydessä oleva informaatio varoittaa olosuhteista, jotka saattavat johtaa vakaviin vammoihin tai laitteen vaurioitumiseen, mikäli ohjeita ei täysin noudateta.

HUOMIO: (CAUTION) Yhteydessä oleva informaatio neuvoo, miten laitteen vaurioituminen voidaan ehkäistä tai miten voidaan välttää olosuhteet, jotka voivat johtaa lieviin vammoihin, mikäli ohjeita ei noudateta.

Tuotteessa tai käyttöohjeessa voidaan käyttää seuraavia alla määriteltyjä kansainvälisiä symboleja, jotka viittaavat turvallisuusinformaatioon.

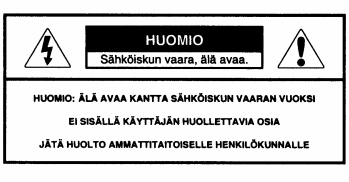
Kolmion sisällä olevan nuolipäinen salama varoittaa käyttäjää laitteen sisällä tai liitännöissä olevasta eristämättömästä vaarallisesta jännitteestä, joka saattaa olla tarpeeksi suuri aiheuttaakseen sähköiskun vaaran.

Kolmion sisällä oleva huutomerkin tarkoituksena on ilmoittaa käyttäjälle tärkeistä asennusta, käyttöä tai huoltoa koskevista ohjeista laitteen mukana seuraavassa kirjallisuudessa.

VAROITUS: (WARNING) ÄLÄ ALTISTA LAITETTA SATEELLE TAI KOSTEUDELLE TULIPALON JA SÄHKÖISKUN VAARAN VUOKSI.

HUOMIO: (CAUTION) Laitteen asentaminen tulisi jättää ammattitaitoisen henkilön suoritettavaksi ja asennuksessa tulee noudattaa kaikkia paikallisia säännöksiä.

Tässä manuaalissa oleva informaatio, joka koskee muutostöitä ja lisälaitteita, on tarkoitettu vain ammattitaitoisten asennus- ja huoltohenkilöiden käyttöön.


HUOMIO
Sähköiskun vaara, älä avaa.
HUOMIO: ÄLÄ AVAA KANTTA SÄHKÖISKUN VAARAN VUOKSI
EI SISÄLLÄ KÄYTTÄJÄN HUOLLETTAVIA OSIA
JÄTÄ HUOLTO AMMATTITAITOISELLE HENKILÖKUNNALLE

SIKKERHETS INFORMASJON

Når ordene **ADVARSEL** (WARNING) og **VIKTIG** (CAUTION) blir brukt i manualen og på produktet, gjelder det informasjon som har med brukerens sikkerhet å gjøre. Ordene har følgende mening:

ADVARSEL: (WARNING) Tilhørende informasjon viser til forhold som kan resultere i alvorlige skader eller ødeleggelser hvis anvisningene ikke følges nøye.

VIKTIG: (CAUTION) Tilhørende informasjon forteller deg hvordan du skal unngå feil på utstyret, eller unngå situasjoner som kan resultere i mindre skader.

Produkt merkingen og bruksanvisningen bruker internasjonale symboler for å merke punkter som er viktige for brukerens sikkerhet.

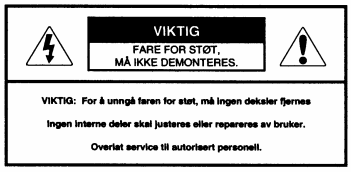
Lynet i en triangel advarer brukeren om uisolert "farlig spenning" inne i apparatet, eller tilkoblings terminaler som kan gi støt.

Etter utropstegnet i en triangel følger informasjon som er viktig når det gjelder installasjon, bruk og vedlikehold (service) av apparatet.

ADVARSEL: (WARNING) FOR Å REDUSERE FAREN FOR BRANN ELLER STØT MÅ APPARATET IKKE UTSETTES FOR VANN ELLER FUKTIGHET.

VIKTIG: (CAUTION) Installasjon av apparatet skal foretas av autorisert installatør etter gjeldende forskrifter.

Modifikasjoner og tilleggs informasjon som følger er kun for kvalifiserte installatører eller service personell.


VIKTIG
FARE FOR STØT,
MÅ IKKE DEMONTERES.
VIKTIG: For å unngå faren for støt, må ingen deksler fjernes
Ingen interne deler skal justeres eller repareres av bruker.
Overlat service til autorisert personell.

SÄKERHETS INFORMATION

Orden **VARNING** (WARNING) och **OBSERVERA** (CAUTION) vilka används i denna manual och på apparaten, är menade att uppmärksamma viktig säkerhets information. Dessa ord har följande betydelse.

VARNING: (WARNING) Information som uppmärksammar på omständigheter som kan resultera i allvarlig personskada eller skada på egendom om instruktionerna ej följs.

OBSERVERA: (CAUTION) Information som uppmärksammar på instruktioner om hur skada på utrustning eller hur situationer där lättare personskador kan uppstå undvikes.

Följande internationellt använda ord och symboler används i handboken och på märkningar på produkten för att uppmärksamma användare på viktiga säkerhets instruktioner.

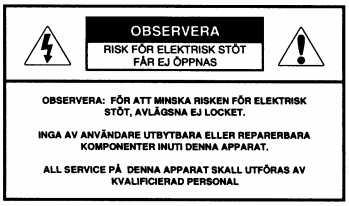
En blixt med pil, innesluten i en triangel, menad att uppmärksamma användare på närvaron av oisolerade "farliga spänningar" i apparaten eller på anslutnings kontakter vilka har tillräcklig styrka för att medföra risk för elektrisk söt.

Ett utropstecken, innesluten i en triangel, menad att uppmärksamma användare på viktiga installations, handhavande eller underhålls-instruktioner i medföljande dokumentation.

VARNING: (WARNING) FÖR ATT MINSKA RISKEN FÖR BRAND ELLER ELEKTRISK STÖT, UTSÄTT EJ APPARATEN FÖR FUKT ELLER VÄTSKA.

OBSERVERA: (CAUTION) Installation av denna apparat skall utföras av kvalificerad installatör samt enligt alla gällande lokala bestämmelser.

Eventuella modifierings instruktioner och annan information av teknisk art i denna manual är endast avsedd att användas av kvalificierad installations och service personal.


OBSERVERA
RISK FÖR ELEKTRISK STÖT
FÅR EJ ÖPPNAS
OBSERVERA: FÖR ATT MINSKA RISKEN FÖR ELEKTRISK STÖT, AVLÄGSNA EJ LOCKET.
INGA AV ANVÄNDARE UTBYTBARA ELLER REPARERBARA KOMPONENTER INUTI DENNA APPARAT.
ALL SERVICE PÅ DENNA APPARAT SKALL UTFÖRAS AV KVALIFICIERAD PERSONAL

ΠΛΗΡΟΦΟΡΙΕΣ ΑΣΦΑΛΕΙΑΣ

Οι λέξεις **ΚΙΝΔΥΝΟΣ** (WARNING) και **ΠΡΟΣΟΧΗ** (CAUTION) που αναφέρονται μέσα στο εγχειρίδιο και στη συσκευή, επικεντρώνουν την προσοχή σε σημαντικές πληροφορίες ασφαλείας. Οι λέξεις αυτές έχουν την παρακάτω σημασία.

ΚΙΝΔΥΝΟΣ : (WARNING) Η αναγραφόμενη πληροφορία επιστά την προσοχή σας σε καταστάσεις που θα μπορούσαν να έχουν σαν αποτέλεσμα σοβαρό τραυματισμό ή καταστροφή της ιδιοκτησίας αν οι οδηγίες δεν ακολουθηθούν κατάλληλα.

ΠΡΟΣΟΧΗ : (CAUTION) Η αναγραφόμενη πληροφορία σας καθοδηγεί πώς να προλάβετε καταστροφή του εξοπλισμού ή πώς να αποφύγετε καταστάσεις που θα μπορούσαν να έχουν ως αποτέλεσμα μικροτραυματισμούς αν δεν ακολουθηθούν τα σωστά βήματα.

Στις επιγραφές των προτόντων και στο εγχειρίδιο λειτουργίας, χρησιμοποιούνται τα σιεθνώς αναγνωρισμένα σύμβολα, των οποίων ο ορισμός δίνεται παρακάτω έτσι ώστε να υπογραμμιστούν τα μηνύματα ασφαλείας.

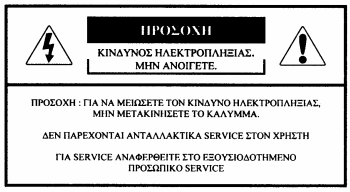
Η φωτεινή αναλαμπή με σύμβολο το βέλος, μέσα στο τρίγωνο, έχει σκοπό να επιστήσει την προσοχή του χρήστη, στην ύπαρξη μη- μονωμένης « επικίνδυνης ισχύος ρεύματος » στο εσωτερικό της συσκευής ή στις άκρες σύνδεσης οι οποίες μπορεί να έχουν αρκετό μέγεθος ώστε να περιέχουν κίνδυνο ηλεκτροπληξίας.

Το επεξηγηματικό σημείο, μέσα στο τρίγωνο, έχει σκοπό να επιστήσει την προσοχή του χρήστη στις σημαντικές οδηγίες εγκατάστασης, λειτουργιας και συντήρησης (service) που περιέχονται στα φυλλάδια που συνοδεύουν την συσκευή.

ΚΙΝΔΥΝΟΣ : (WARNING) Για να αποφύγετε τον κίνδυνο φωτιάς ή ηλεκτροπληξίας, μην εκθέτετε αυτή τη αυσκευή σε βροχή ή σε υγρασία.

ΠΡΟΣΟΧΗ : (CAUTION) Η εγκατάσταση αυτής της συσκευής θα πρέπει να γίνει από εξειδικευμένο άτομο και θα πρέπει να προσαρμόζεται σε όλους τους εφαρμόσιμους τοπικούς κώδικες.

Οι τροποποιήσεις και οι προϋποθετικές πληροφορίες για τον εξοπλισμό, που αναφέρονται σε αυτό το εγχειρίδιο, προορίζονται για χρήση μόνο από εξειδικευμένα στην εγκατάσταση και στο service, άτομα.



INFORMAÇÃO SOBRE SEGURANÇA

As palavras ADVERTÊNCIA (WARNING) e PRECAUÇÃO (CAUTION) neste manual, e no dispositivo, alertam para importantes informações sobre segurança. Estas palavras significam o seguinte:

ADVERTÊNCIA : (WARNING) Informação relacionada que alerta sobre condições que poderão resultar em lesões sérias ou prejuízo, se as instruções não forem seguidas adequadamente.

PRECAUÇÃO : (CAUTION) Informação relacionada que instrúi como prevenir danos no equipamento ou como evitar condições que poderão resultar em lesões leves, se os passos não forem seguidos adequadamente.

As etiquetas do produto e do manual de operações podem usar os símbolos internacionalmente reconhecidos definidos abaixo para advertir mensagens de segurança.

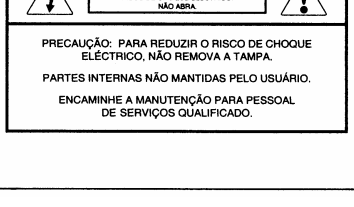
símbolo do relâmpago com uma seta, dentro de um triângulo, tem o fim de alertar o usuário a presença de "voltagem perigosa" sem isolação dentro da caixa isolamento do aparelho ou nos terminais de ligação que podem ter a magnitude suficiente que constitui um risco de choque eléctrico.

ponto de exclamação, dentro de um triângulo, tem o fim de alertar o usuário sobre instruções importantes de instalação, operação e manutenção (serviços) na literatura que acompanha o aparelho.

ADVERTÊNCIA : (WARNING) PARA REDUZIR O RISCO DE INCÊNDIO OU CHOQUE ELÉCTRICO, NÃO EXPONHA ESTE APARELHO A CHUVA OU HUMIDADE.

PRECAUÇÃO : (CAUTION) A instalação deste aparelho deve ser feita por um profissional qualificado e deve obedecer a todos os códigos locais aplicáveis.

Modificação e informação sobre equipamento adicional citados neste manual são para o uso exclusivo do pessoal qualificado de instalação e manutenção.


PRECAUÇÃO
RISCO DE CHOQUE ELÉCTRICO.
NÃO ABRA
PRECAUÇÃO: PARA REDUZIR O RISCO DE CHOQUE ELÉCTRICO, NÃO REMOVA A TAMPA.
PARTES INTERNAS NÃO MANTIDAS PELO USUÁRIO.
ENCAMINHE A MANUTENÇÃO PARA PESSOAL DE SERVIÇOS QUALIFICADO.